

Welcome to the Department of Biochemistry and Molecular Biophysics



Washington University in St. Louis
School of Medicine

Back Up Your Stuff!



Don't let your important files and data go up in flames!

If you are not putting your important files on our servers (such as BMBCore), then it is possible that they are NOT getting backed up!

ARE YOU COMFORTABLE WITH LOSING ALL YOUR RESEARCH DATA?

Make sure that your computer is running a backup program!

Want to make sure your computer is backed up?

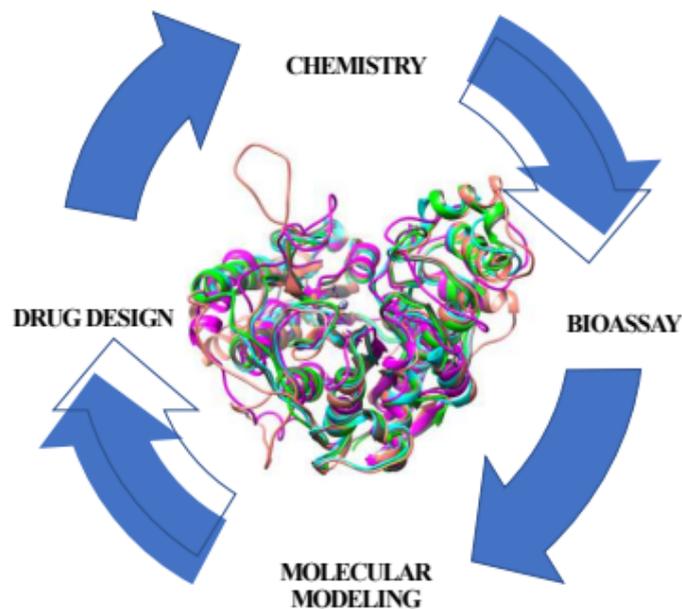
We provide several backup solutions.

Just send an email: support@biochem.wustl.edu

Department of Biochemistry and Molecular Biophysics

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Spotlight on Research



The [Marshall Lab](#) performs a synergistic application of organic synthesis (solution- and solid-phase chemistry), enzymatic assays (electrophoretic mobility shift assays (EMSA) and surface plasmon resonance (SPR)), and computational chemistry techniques (homology modeling, molecular docking, molecular dynamics simulations, QSAR and 3D QSAR models) to rationally develop novel isoform-selective Lysine Deacetylases Inhibitors (KDACIs) as new therapeutics for the treatment of cancer, HIV-1, schistosomiasis and malaria.

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April Publication



Benjamin Yaw Owusu, Robert Galemno, **James Janetka**, and Lidija Klampfer

Hepatocyte Growth Factor, a Key Tumor-Promoting Factor in the Tumor Microenvironment

Cancers 2017, 9(4), 35 (2017)

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6/2/17

**BMB Science
Fridays**

There are 212 days
remaining until the end of the
year. **Lets celebrate!**

Break Room

4:30 pm

Host: Galburt lab

December Publication



Galburt E.A. and **Rammohan J.**

A Kinetic Signature for Parallel Pathways: Conformational Selection and Induced Fit. Links and Disconnects between Observed Relaxation Rates and Fractional Equilibrium Flux under Pseudo-First-Order Conditions.

Biochemistry. 20;55(50):7014-7022 (2016)

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BMB SCIENCE FRIDAYS

a forum for new data, new ideas and works in progress

How iron is transported to blood: the mechanism of ferroportin



Shuang Li
(Lilab)

Friday, June 2nd, 2017
4:00 pm – 264 McDonnell Sciences

Host: Galburt lab

Thermodynamics Can Get You Anywhere!



Peggy Whitson now holds the record for cumulative time in space by a U.S. astronaut!

#CongratsPeggy

Read more about this and her research paper, "***Thermodynamic analysis of the lactose repressor-operator DNA interaction***", at biochem.wustl.edu/links

2017 Chili Cook-off

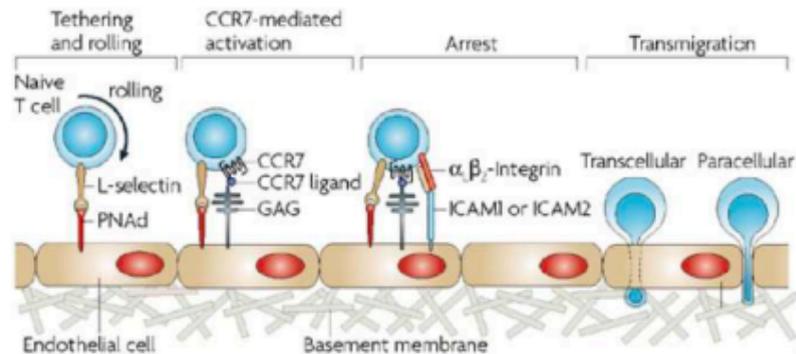
On April 21st, 2017, we held our 3rd Annual Chili Cook-off. This year included a few non-chili options such as vegan and Chinese selections. The Burgers Lab won this year. Congratulations!

Visit biochem.wustl.edu/photos to see even more pictures!



Spotlight on Research

The [Cooper Lab](#) is interested in how cells migrate, in particular how cells cross the endothelium as they move into or out of the blood stream. Immune cell migration is important for fighting infection, and cancer cell migration is important for combatting cancer metastasis. These cells use their actin cytoskeletons to accomplish this movement.



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April Publication



Sun X., Laroche G., Wang X., Ågren H., **Bowman G.R.**, Giguère P.M., and Tu Y.

Propagation of the Allosteric Modulation Induced by Sodium in the δ -Opioid Receptor.

Chemistry 23(19):4615-4624 (2017)

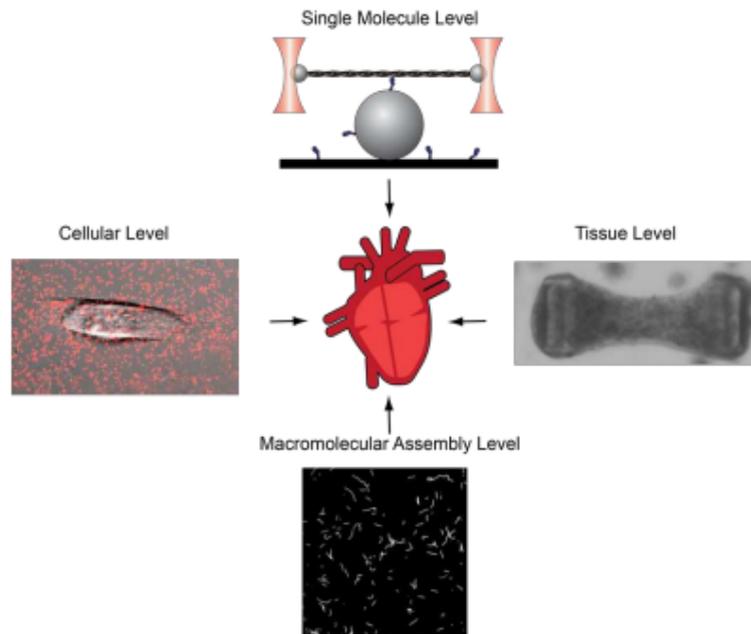
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Spotlight on Research

The [Greenberg Lab](#) focuses on how cytoskeletal motors function in both health and disease. Currently, the lab is studying mutations that cause familial cardiomyopathies, the leading cause of sudden cardiac death in people under 30 years old. The lab uses an array of biochemical, biophysical, and cell biological techniques to decipher how these mutations affect heart contraction from the level of single molecules to the level of engineered tissues. Insights into the disease pathogenesis will guide efforts to develop novel therapies.

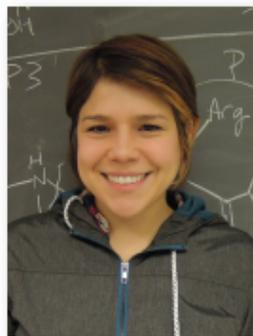


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May Publication



Mydock-McGrane L.K., Hannan T.J., and **Janetka J.W.**

Rational Design Strategies for FimH Antagonists: New Drugs on the Horizon for Urinary Tract Infection and Crohn's Disease.

Expert Opin Drug Discov. (2017)

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Farmer's Market

**Inside the McDonnell Pediatric
Research Building**

OR

**Outside on the Plaza
(weather permitting)**

Every Thursday!

10:00 am - 2:00 pm



Congratulations to Whitney Grither!

On May 5th, 2017, **Whitney Grither** was awarded the 2017 Ceil M. DeGutis Prize in Chemical Biology/Medicinal Chemistry.

You can read more at
biochem.wustl.edu/news



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Don't Forget!



Please keep your lab locked if no one is in the lab when you leave.

And take your keys with you!

Please remember to take your gloves off when leaving the lab.



March Publication



Kinch M.S. and Woodard P.K.

Analysis of FDA-approved imaging agents.

Drug Discov Today. 2017

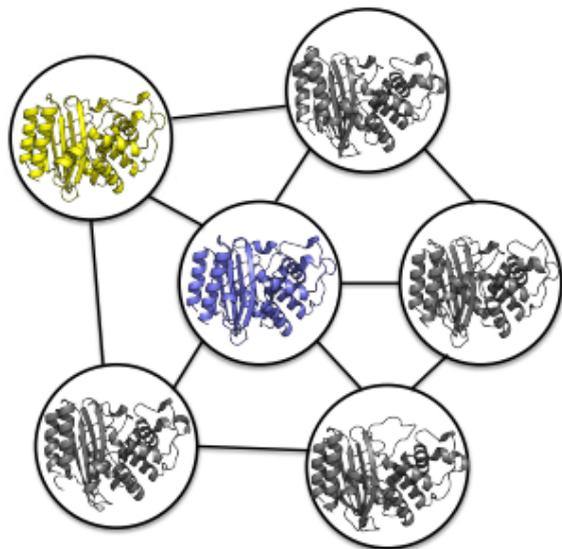
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Spotlight on Research

The [Bowman Lab](#) seeks to understand the distribution of different structures a protein adopts and how this ensemble determines a protein's function. Examples of ongoing research projects include 1) understanding how mutations in the enzyme beta-lactamase change its specificity without changing the protein's crystal structure, 2) designing allosteric drugs, and 3) developing algorithms for quickly building models of the different structures a protein adopts.



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March Publication



Burgers P.M. and Kunkel T.A.

Eukaryotic DNA Replication Fork.

Annu Rev Biochem. (2017)

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NEW WASTE SORTING GUIDELINES

ALWAYS EMPTY FOODS AND LIQUIDS BEFORE RECYCLING CONTAINERS



RECYCLE

WASTE SORTING GUIDE : 2-STREAM



◀ METAL & GLASS



◀ PLASTICS
NO #6 OR BAGS



◀ PAPER, CARTONS
& CARDBOARD



◀ NO
FOOD/LIQUIDS
TO-GO BOXES
PAPER CUPS

FOOD CONTAMINATES RECYCLING

LANDFILL



FOOD/LIQUIDS
TO-GO BOXES



PLASTIC UTENSILS



PLASTIC #6
PAPER CUPS
STYROFOAM



SNACK WRAPPERS
SOFT PLASTICS & BAGS

QUESTIONS? SUSTAINABILITY.WUSTL.EDU

 Sustainability
WASHINGTON UNIVERSITY IN ST. LOUIS

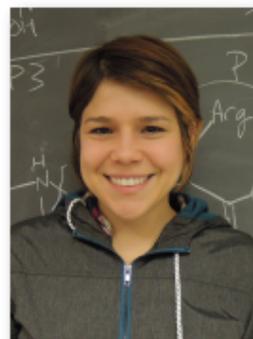


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April Publication



Melissa M Budelier, Wayland WL Cheng, Lucie Bergdoll, Zi-Wei Chen, **James W Janetka**, Jeff Abramson, Kathiresan Krishnan, **Laurel Mydock-McGrane**, Douglas F Covey, Julian P Whitelegge, and Alex S Evers

Photoaffinity labeling with cholesterol analogues precisely maps a cholesterol-binding site in voltage-dependent anion channel-1

Journal of Biological Chemistry (2017)

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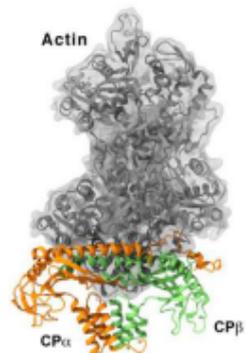
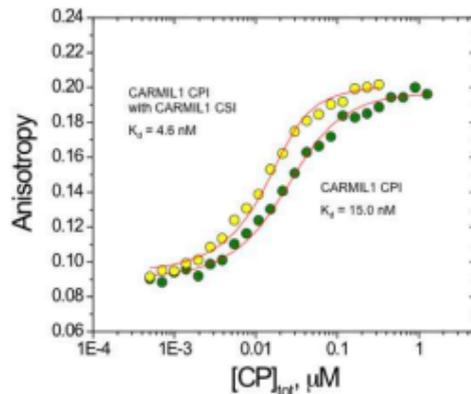
Shuang Li
(Lilab)

Friday, June 2nd, 2017
4:00 pm – 264 McDonnell Sciences

Host: Galburt lab

Spotlight on Research

The [Cooper Lab](#) is interested in how the actin filaments in cells assemble and how that assembly controls cell shape and movement. One focus is an actin-binding protein called "capping protein," which caps one end of the actin filament. Capping protein is in turn regulated by intrinsically disordered regions of the CARMIL family of proteins, which exhibit positive linkage in their binding interactions.

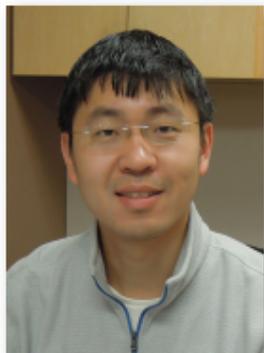


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March Publication



Tianyang Liu, Anbang Dai, Yong Cao, **Rui Zhang**, Meng-Qiu Dong, and Hong-Wei Wang

Structural insights of WHAMM's interaction with microtubules by cryo-EM

Journal of Molecular Biology (2017)

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Break Room

4:30 pm

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Congratulations to Dr. Galletto!

Roberto Galletto, PhD, Associate Professor of Biochemistry and Molecular Biophysics, received a four year grant award renewal from the National Institute of General Medical Sciences for his research entitled "*Helicase Activity and its Role in Telomere and Telomerase Regulation*".



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TEA TIME

for Faculty, Staff, Postdocs & Students

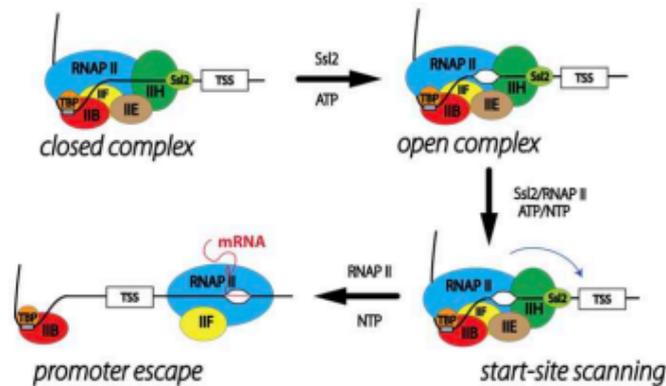
Tuesdays & Thursdays
3:00-4:00 pm

Biochemistry Break Room
201 McDonnell Sciences Building

Coffee, tea and cookies are served.

Spotlight on Research

The [Galburt Lab](#) strives to understand the physical mechanisms of transcription initiation and other important DNA-protein interactions. More specifically, we use a variety of single-molecule and ensemble biophysical techniques including both optical and magnetic tweezers and fluorescent microscopy to investigate how the assembly of initiation complexes on gene promoters leads to DNA unwinding and transcription. Our work is currently focused on the mechanisms of basal transcription initiation in Eukaryotes and on factor-regulated transcription in *Mycobacterium tuberculosis*.



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BMB Support

Computer not working?

Not getting email on your smartphone?

We are here to help with the many computing issues that may pop up in your day-to-day operations.

Support email: support@biochem.wustl.edu

Support website: BiochemSupport.wustl.edu

Just send us an email or visit our website and click on ***Request Support*** to get help!



May Publication



Wang H., **Shu Q.**, **Frieden C.**, and Gross M.L.

Deamidation slows Curli Amyloid-Protein Aggregation.

Biochemistry. (2017)

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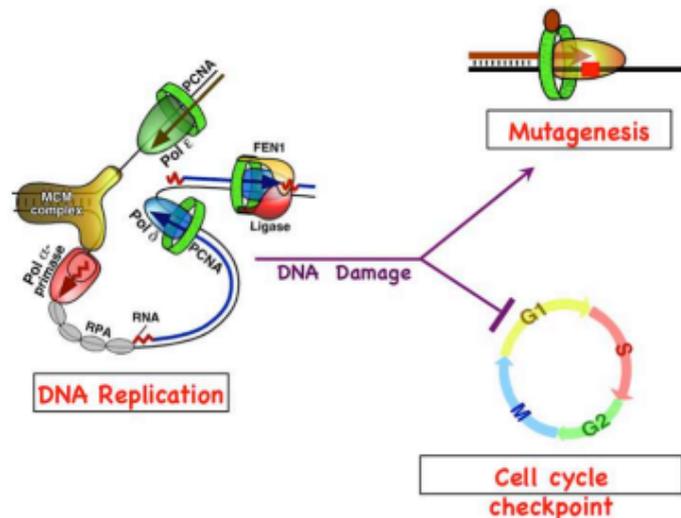
WashU Holiday Schedule

| Holiday | Day | Date Observed at WU |
|------------------------|----------|----------------------------------|
| Memorial Day | Monday | May 29 th , 2017 |
| Independence Day | Tuesday | July 4 th , 2017 |
| Labor Day | Monday | September 4 th , 2017 |
| Thanksgiving | Thursday | November 23 rd 2017 |
| Day After Thanksgiving | Friday | November 24 th , 2017 |
| Christmas | Monday | December 25 th , 2017 |

Spotlight on Research

The [Burgers Lab](#) studies DNA replication and DNA damage response in eukaryotic cells. Using yeast as a model organism, the lab integrates the biochemical analysis of DNA-protein interactions in purified model systems with the genetic analysis of targeted yeast mutants. Specific areas of interest are lagging strand DNA replication and Okazaki fragment maturation, damage induced mutagenesis, and DNA damage cell cycle checkpoints.

Right: DNA replication fork and Okazaki fragment maturation



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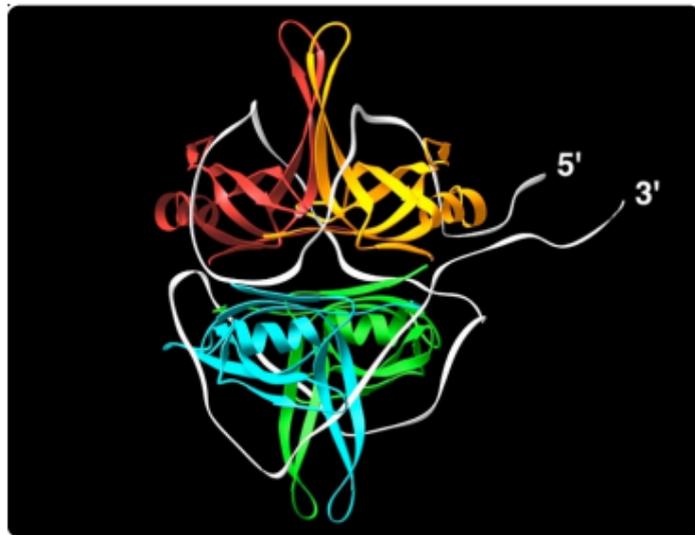
Are you paid **monthly**?

Please remember that your **time report** is
due by the **5th** of each month.

Spotlight on Research

Research in the [Lohman Lab](#) focuses on obtaining a molecular understanding of the mechanisms of protein-nucleic acid interactions involved in DNA metabolism, in particular, DNA motor proteins (helicases/translocases) and single stranded DNA binding proteins.

Thermodynamic, kinetic, structural and single molecule approaches are used to probe these interactions at the molecular level.



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BMB SCIENCE FRIDAYS

a forum for new data, new ideas
and works in progress

Science Fridays and Happy Hour:
EVERY FRIDAY, starting at 4PM.

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